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TITLE : SILICON HOLDING VESSEL AND MANUFACTURING METHOD THEREFOR

ABSTRACT : PROBLEM TO BE SOLVED: To provide a vessel for holding molten silicon, which can effectively prevent contamination of a silicon melt, and is superior in sinterability, mechanical strength, and productivity, by coating the surface with thermal spraying.

SOLUTION: This method for manufacturing the silicon holding vessel is characterized by coating an inner surface of the silicon holding vessel with a thermal sprayed film of silicon-based composite cermet consisting of metallic silicon, silicon nitride, and silicon oxide. The method for forming the above thermal sprayed film of the silicon-based composite cermet is characterized by spraying a silicon-based cermet material consisting of  $\text{Si}_3\text{N}_4$ ,  $\text{SiO}_2$ , and the metallic silicon as a binding material.

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